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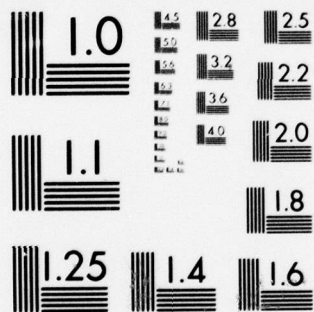
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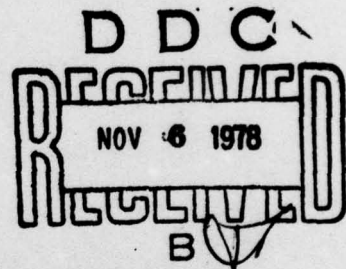
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TECHNICAL MEMORANDUM
TM 180-78
VOLUME IV
3 FEBRUARY 1978
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**WORLDWIDE MILITARY
COMMAND AND CONTROL
SYSTEM (WWMCCS)
H6000 TUNING GUIDE**

VOLUME IV - APPENDICES

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H-6000 TUNING GUIDE

VOLUME IV - APPENDIXES

PROJECT PERSONNEL:

Barry M. Wallack
Barry M. Wallack
George H. Gero JR.
CCTC/CPE/C702
RM BE685, The Pentagon
Washington, D.C. 20301
AV - 692-2725
COMM - 6972725

APPROVED BY:

Tipton P. Mott-Smith
TIPTON P. MOTT-SMITH
Colonel, USAF
Deputy Director for
Computer Services

78 10 10 000

PREFACE

This report is based on detailed analysis of a large amount of technical information concerning the H6000 computer tuning. The results address procedures for the analysis of batch turnaround time and GCOS Time Sharing System response time in Worldwide Military Command and Control Systems (WWMCCS). Because of the complexity of the analysis procedures and their dependence on the WWMCCS workloads and operational environments, generalizing the procedures beyond the described environment or extracting conclusions without their respective qualifying conditions is not practical. Questions related to this report or to the possibility of extending the stated conclusions or recommendations should be addressed to the Computer Performance Evaluation Office, Command and Control Technical Center (C702), the Pentagon, Washington, D.C. 20301.

To gain a general understanding of the approach of the H-6000 Tuning Guide, Volume I, Section 2, Volume II, Section 2, and Volume III, Section 2, should be read. One or more of the hypothesis tests (search procedures) in Volume II, Sections 4-12, and Volume III, Sections 3-10, should also be read. Not all these tests have to be read at the start of a tuning effort. Each should be read as it needs to be applied. To start a tuning effort, Volume I should be read and applied. The procedure for analysis of batch turnaround time begins in Volume II, Section 3. The procedure for analysis of Time Sharing response time begins in Volume III, Section 2.

The H-6000 Tuning Guide has never been tested by a novice in performance evaluation, although field tests have been conducted by FEDSIM personnel. For this reason, it remains a preliminary version.

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CONTENTS

	Page
PREFACE	ii
ABSTRACT	vii
APPENDIXES	
A. INTRODUCTION	1
B. BATCH TURNAROUND TIME ANALYSIS SYSTEMS USERS GUIDE DATA REDUCTION PROGRAMS	3
Section 1. INTRODUCTION	4
1.1 Purpose	4
1.2 Application	4
1.3 System Overview	4
1.4 Turnaround Model Concepts	4
Section 2. RPT12 OPERATING INSTRUCTIONS	12
2.1 Input	12
2.1.1 Tape	12
2.1.1.1 Description	12
2.1.1.2 Characteristics	12
2.1.1.3 Required Traces	12
2.1.2 Card	12
2.1.2.1 Description	12
2.1.2.2 PRE Card	13
2.1.2.3 POST Card	13
2.1.2.4 LIMITS Card	14
2.1.2.5 *SNUMB Card	14
2.1.2.6 SNUMB Selection Cards	14
2.1.3 Example	16
2.2 Output	16
2.2.1 Summary Report	16
2.2.2 Model Report	16
2.2.3 System Report	17
2.3 Execution JCL	17

CONTENTS (Cont'd)

	Page
Section 3. RPT34 OPERATING INSTRUCTIONS	19
3.1 Input	19
3.1.1 Tape	19
3.1.1.1 Description	19
3.1.1.2 Characteristics	19
3.1.1.3 Required Traces	19
3.1.2 Card	19
3.1.2.1 Description	19
3.2 Output	20
3.3 Execution JCL	21
C. MASS STORE MONITOR/CHANNEL MONITOR	22
C.1 Mass Store Monitor	23
C.2 Channel Monitor	30
D. GCOS REPORTS	38
1. GCOS File Map	39
2. GCOS Memory Map	39
3. GCOS System Map	39
E. MEMORY UTILIZATION MONITOR/CPU MONITOR	43
1. Total Elapsed Time An Activity Was in Memory Report	44
2. The Elapsed Wait Time for Memory Requests In I/O Second . .	44
3. CPU Utilization Report	44
4. Tape Delay Report	48
F. HONEYWELL ERROR ANALYSIS AND LOGGING SYSTEM II	50
1. Concepts and Facilities	51
2. Report Formats and Data Elements	51

CONTENTS (Cont'd)

	Page
G. GENERAL SUMMARY EDIT PROGRAM (GESEP)	58
1. Concepts and Facilities	58
2. Report Formats and Data Elements	58
H. TSS REPONSE TIME ANALYSIS SYSTEM	61
1. Concepts and Facilities	62
2. Report Formats and Data Elements	62
DISTRIBUTION	63

TABLES

NUMBER

A-1 System Processing Phase Process Definitions	10
A-2 Model Typing Based Upon Absence/Presence of Phase Activity	11

ILLUSTRATIONS

Figure

A-1 Collector/Analyzer Concept	5
A-2 Sample Machine Room Flow	6
A-3 Simple Batch Job Life Cycle	9
B-1 Example of PRE nad POST Data Card Input	18
C-1 MSM Seek Movement Report	24
C-2 MSM Space Utilization Report	26
C-3 MSM System File Use Summary Report	27

ILLUSTRATIONS

Figure	Page
C-4 MSM File Summary Report	28
C-5 MSM Individual Module Activity Report	29
C-6 The Physical Device, Device ID Correlation Table . .	31
C-7 Channel-Device Busy Report	32
C-8 Channel Busy and Device Free Report	33
C-9 Channel Free Device Busy Report	34
C-10 Channel Free Device Free Report	35
C-11 Physical Storage Monitor	37
D-1 GCOS File Map	40
D-2 GCOS Memory Map	41
D-3 GCOS System Map	42
E-1 MUM Total Elapsed Time An Activity Was In Memory Report	45
E-2 MUM Average Elapsed Wait Time Report	46
E-3 MUM CPU Utilization Report	47
E-4 MUM Tape Delay Report	49
F-1 HEALS II System	52
F-2 HEALS II Tape Unit Error Variance Report	53
F-3 HEALS II Tape Error By Unit/Reel Number Report . .	54
F-4 HEALS II MPC Statistics Report	56
G-1 GESEP	59
G-2 GESEP Allocator/Termination Report	60

ABSTRACT

The Federal Computer Performance Evaluation and Simulation Center (FEDSIM) has developed a document for WWMCCS installations that can be used by site personnel to analyze the performance characteristics of their Honeywell 6000 (H-6000) computer systems. This document, called an H-6000 Tuning Guide, incorporates detailed analysis procedures that guide the analyst in applying specific techniques to improve system performance.

The four volumes of the Tuning Guide (Technical Memorandum TM 180-78) present a precisely structured system of procedures for the analysis of the performance of WWMCCS computer services and systems:

- Volume I WWMCCS System Tuning Process. The first volume describes the overall structure and application of the Tuning Guide. It explains the approach, procedures, and processes taken by the Tuning Guide to provide analyses of batch job turnaround time and GCOS Time Sharing System (TSS) response time.
- Volume II Batch Turnaround Time Analysis Procedures. The second volume presents a set of procedures for analysis of batch job turnaround time. It first presents a model of the processes and queue points associated with batch job turnaround time and then describes nine tests that use the model to direct the analysis of turnaround time.
- Volume III TSS Response Time Analysis Procedures. The third volume serves the same general purpose and has the same general structure as Volume II. Volume III presents a complete set of procedures for investigating the response time of GCOS Time Sharing System (TSS) interactions. The volume first presents a model of the processes and queue points associated with TSS response time and then describes eight tests to direct an analysis of TSS response time.
- Volume IV H-6000 Tuning Guide Appendixes. The fourth volume provides the appendixes referenced by the other volumes of the Tuning Guide. The volume contains detailed descriptions of report formats and other references data.

APPENDIX A
INTRODUCTION

INTRODUCTION

This volume contains the Appendixes to the H-6000 Tuning Guide. The four volumes of the Tuning Guide (referred to in this volume as the Guide) present a precisely structured system of procedures for analysis of the batch turnaround time and Time Sharing System response time in WWMCCS computer systems. The titles of the four Guide volumes are: (I) WWMCCS System Tuning Process, (II) Batch Turnaround Time Analysis Procedures, (III) TSS Response Time Analysis Procedures, and (IV) H-6000 Tuning Guide Appendixes.

References are made in the other Guide volumes to certain measurement reports. This volume describes these reports.

Appendixes B through G are referenced by the Batch Turnaround Time Analysis Procedures (Guide Volume II).

The Guide TSS Response Time Analysis Procedures reference the contents of Appendix H (TSS Response Time Analysis System).

APPENDIX B
BATCH TURNAROUND TIME ANALYSIS SYSTEMS USERS GUIDE
DATA REDUCTION PROGRAMS

SECTION 1. INTRODUCTION

1.1 Purpose. The purpose of this user guide is to provide the user of the Batch Turnaround Time Model data reduction programs with a general description of the programs and to provide the user with a description of available input options, JCL needed to execute the programs, and reports produced by the programs.

1.2 Application. The data reduction programs described in this document support a Batch Turnaround Time Model designed by the Federal Simulation Center (FEDSIM) for the Command and Control Technical Center (CCTC). Reports generated by these programs will be used to identify the usage of time by certain components of the Turnaround Time Model. Specifically, they will be used in searching for performance bottlenecks in areas defined by the model. The method for using the reports is detailed in the CCTC Tuning Guide.

1.3 System Overview. The collector/analyzer concept upon which the Turnaround Model is based is pictured in Figure A.1. The data collection phase is performed in real time by CCTC's Generalized Monitor Facility (GMF) for which a FEDSIM monitor capability has been developed (see GMF Users Manual for the GMF operating instructions). GCOS trace data is captured, manipulated, buffered, and written to a data collection tape. The data collection tape then becomes the primary input for subsequent data reduction runs.

There are two primary data reduction modules, RPT12 and RPT34, each of which is supported by its own mathematical calculation and array manipulation subroutine, PCT90 and CMPT34, respectively. RPT12 and RPT34 get trace records for analysis by making calls to the subroutine NXTRAC. Through this interface, the primary module tells NXTRAC which trace(s) are of interest. NXTRAC retrieves every trace record on the data tape through calls to the subroutine NXTRECRD. NXTRAC makes repeated calls to NXTRECRD until a trace record of interest to the primary module is detected, at which time some time stamp manipulation is performed and the trace is passed to the primary module for analysis.

1.4 Turnaround Model Concepts. For the purposes of the turnaround model and its associated data reduction programs, a Local Batch job life-cycle is comprised of three distinct phases called pre-processing, system processing, and post-processing (figure A-2). The pre-processing phase include manual processes performed at the local computer installation related to a batch job before it enters the computer. The system processing phase includes automatic processes related to a batch job while it is resident in the computer system. These processes are well defined as:

- o Input and Scheduling
- o Peripheral Allocation
- o Core Allocation

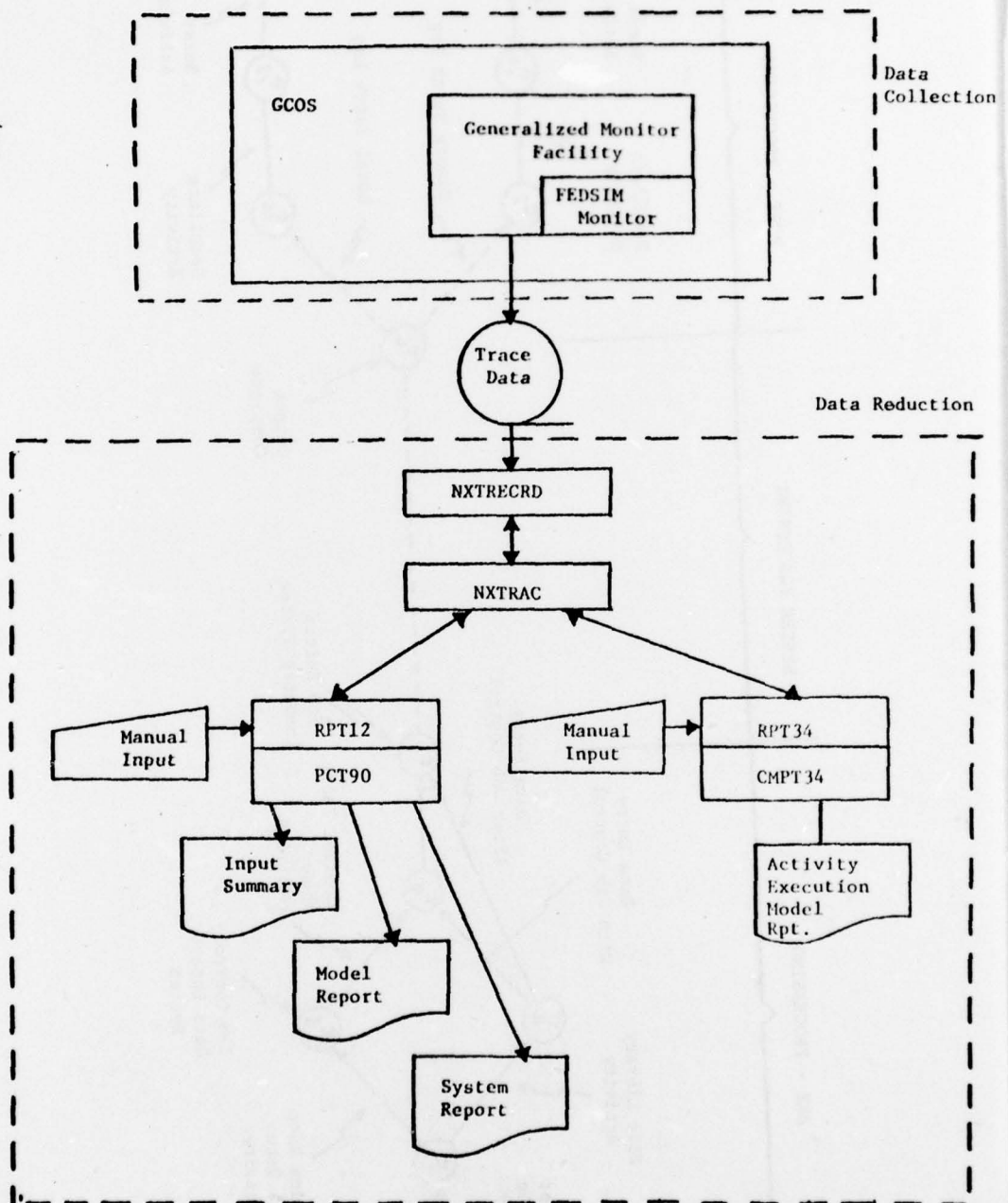


Figure A-1. Collector/Analyzer Concept

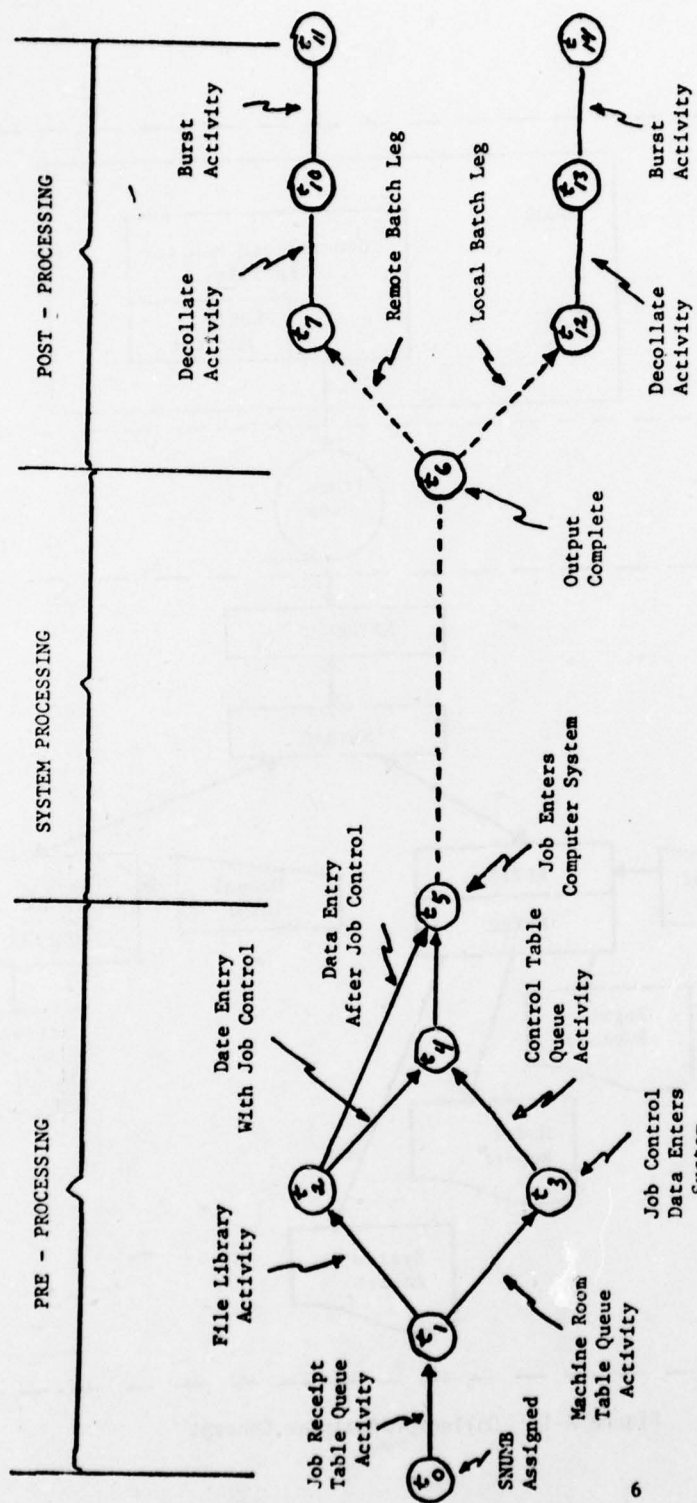


Figure A-2. Sample Machine Room Flow

- o Execution
- o Termination
- o Waiting (to commence output)
- o System Output

The postprocessing phase includes manual processes performed at the local computer installation related to a batch job once its output is complete.

Within the general definition of a 3-phase life-cycle of a batch job are two special cases:

- a. Jobs initiated at a remote terminal with output at the local computer center (i.e., no preprocessing), and
- b. Jobs initiated at a remote terminal with output returned to a remote device (no pre- or postprocessing).

These latter two cases are called the Remote Batch "B" Model and Remote Batch "A" Model, respectively.

To summarize, the following can be stated:

- o Batch jobs are comprised of three distinct phases called pre-processing, system processing, and postprocessing.
- o Batch jobs may be categorized as belonging to one of three model types called local batch, remote batch "A", and remote batch "B" based upon the presence or absence of pre- and/or postprocessing phases. (The system processing phase is always present).
- o Processes of the system processing phase are well defined.
- o Processes of the pre- and postprocessing phases depend upon individual site operational characteristics and, as such, cannot be well defined.

The Turnaround Model data reduction program RPT12 has been structured around the above summary. The beginning and ending points of system processes are easily defined by GCOS system traces (table A-1). Non-system processes, on the other hand, cannot be completely defined by GCOS traces. To accommodate these processes, the concept of user traces $tyy (00 < yy \leq 148)$ has been instituted. The sample machine room flow depicted in figure A-2 makes use of all allowable user traces. In general, the maximum number of user traces will not be required. A simple example is shown in figure A-3. The user can define processes of the pre- and postprocessing phases by name and relative endpoints (beginning and ending traces) through the use of input parameter cards. He can also specify the SNUMBS of those jobs he wants summarized by RPT12, and include the time of day any or all user traces occurred for each

job. PRT12 will automatically type and report each job as local, remote batch "A", or remote batch "B" based upon the presence or absence of activity within the pre- and/or post-processing phases. Table A-2 summarizes how model typing is performed by RPT12.

Data reduction program RPT34 summarizes system-processing data by job activity rather than by job SNUMB. Therefore, no capability to identify specific jobs by SNUMB or to describe specific non-system processes via GCOS and user traces is required.

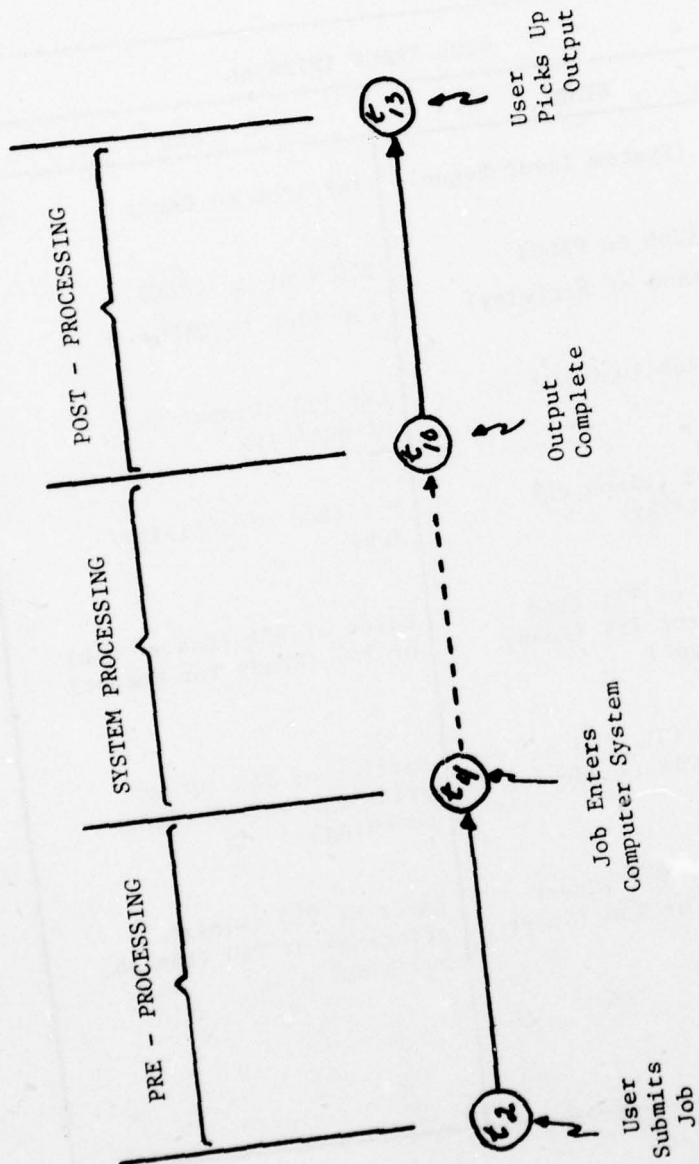


Figure A-3. Simple Batch Job Life Cycle

Table A-1. System Processing Phase Process Definitions

PROCESS NAME	GCOS TRACE INTERVAL	
	START	END
Input & Scheduling	T45 (System Input Begun)	T47 (Job to PALC)
Peripheral Allocation	T47 (Job to PALC) T51 (End of Activity)	T50 (Job to CALC) T50 (Job to CALC)
Core Allocation	T50 (Job to CALC)	1st T13 (Dispatch) of Activity
Execution	1st T13 (Dispatch) of Activity	T51 (End of Activity/ Job)
Termination	Earlier of T51 (End of Job) or T54 (Ready for Output)	Later of T51 (End of Job) or T54 (Ready for Output)
Waiting	Later of T51 (End of Job) or T54 (Ready for Output)	Earlier of T55 (Start printing) or T56 (Start punching)
System Output	Earlier of T55 (Start printing) or T56 (Start punching)	Later of T57 (Finish printing) or T60 (Finish punching)

Table A-2. Model Typing Based Upon Absence/Presence of Phase Activity

Pre-Processing Activity	System Processing Activity	Post-Processing Activity	Model Type
No	No*	No	Unknown
No	No*	Yes	"B"
Yes	No*	Yes	Local
Yes	No*	No	Local
Yes	Yes	Yes	Local
Yes	Yes	No	Local
No	Yes	Yes	"B"
No	Yes	No	"A"

* Can occur if user-requested job is not found on data tape.

SECTION 2. RPT12 OPERATING INSTRUCTIONS

2.1 Input. Input to RPT12 consists of a GMF-produced trace data tape and optional card input.

2.1.1 Tape.

2.1.1.1 Description. The input tape (file code 10) is a trace data tape created by the GMF program with the batch trace collector (GMF monitor #7) turned on. Refer to GMF User documentation for further details pertaining to the data collection tool.

2.1.1.2 Characteristics. The data tape is comprised of 4094-word blocks with one logical 4092-word record per block. The tape contains no header or trailer labels and no block serial number processing is performed. This file may be multireel, in which case all tape mounting procedures are controlled by the NXTRECRD subroutine.

Each physical block is composed of numerous trace information "records". The data reduction programs use only those trace records which have a trace type 74 or Bit 29 turned on in the record control word. Bit 29 is used by GMF to identify special records signifying end-of-file, lost data, and other special situations. Trace 74 uniquely identifies a record as having been generated by the FEDSIM monitor within GMF.

2.1.1.3 Required Traces. The GCOS traces that the batch reduction program RPT12 expects to find on the input tape are 13, 45, 47, 50, 51, 54, 55, 56, 57 and 60.

2.1.2 Card.

2.1.2.1 Description. Card input (file code I* or 05) to program RPT12 is user generated data which (1) define processes by name and symbolic end points (GCOS and/or user trace numbers) for pre- and postprocessing phases, (2) define a time interval of the data input tape to be analyzed (if entire tape is not desired), and (3) identify specific SNUMBs to be extracted from the tape along with specific time values for any user traces defined as described in (1) above.

This entire file is optional. If no card data file (file code 05 or I*) is included in the job stream, the following default options will apply:

- a. No pre- or post-processing processes will be defined.
- b. The entire time interval contained on the tape will be reported.
- c. All jobs found on the data tape will be reported.

Note that under these circumstances, all jobs will be reported as model type Remote Batch "A" since RPT12 will not be aware of any pre- or postprocessing for any job.

2.1.2.2 PRE Card. A PRE-processing card defines one preprocessing process by name and by time interval end points in terms of GCOS traces Gnn (00≤nn≤63g) and/or user defined symbolic traces Tyy (00≤yy≤14g). The cards are optional. If used, a maximum of ten (10) is allowed and all must precede the *SNUMB card.

<u>Column</u>	<u>Description</u>	<u>Contents</u>
1-6	Card ID	"PREØØØ"
7-30	Process name	Any alpha-numeric characters
31	Blank	
32-34	Process initiation trace	Gnn or Tyy (see above)
35	"Ø" or "-" (optional)	Earlier/Later Indicator
36-38	Alternate initiation trace (optional)	Gnn or Tyy (see above) If present, means to use the later (col 35 = "Ø") or earlier (col 35 = "-") of the time values associated with this trace and the trace defined in columns 32-34.
39-44	Blank	
45-47	Process termination trace	Gnn or Tyy (see above)
48	"Ø" or "-" (optional)	Earlier/Later Indicator
49-51	Alternate termination trace (optional)	Gnn or Tyy (see above) If present, means to use the later (col 48 = "Ø") or earlier (col 48 = "-") of the times associated with this trace and the trace defined in columns 45-57.
52-72	Blank	
73-80	Card sequence no. (optional)	

2.1.2.3 POST Card. A POST-processing card defines one postprocessing process by name and by time interval endpoints in terms of GCOS traces Gnn (00≤nn≤63g) and/or user defined symbolic traces Tyy (00≤yy≤14g). The cards are optional. If used, a maximum of ten (10) is allowed and all must precede the *SNUMB card. The format is identical to the PRE card (see 2.1.2.2) except that columns 1-6 must contain "POSTØØ".

2.1.2.4 LIMITS Card. The LIMITS card is an optional card that allows the user to define a time interval of the data input tape to be analyzed. If used, this card must precede the *SNUMB card.

<u>Column</u>	<u>Description</u>	<u>Value</u>
1-6	Card ID	"LIMITS"
7	Blank	
8-11	Interval start time	Time of day in HHMM format
12	Blank	
13-16	Interval stop time	Time of day in HHMM format
17-72	Blank	
73-80	Card sequence no. (optional)	

2.1.2.5 *SNUMB Card. The *SNUMB card signals the end of all PRE, POST and LIMITS cards. All remaining cards in the input stream will be interpreted as SNUMB selection cards (see 2.1.2.6). If no SNUMB selection cards are in the input stream, the *SNUMB card is optional.

<u>Column</u>	<u>Description</u>	<u>Value</u>
1-6	Card ID	"*SNUMB"
7-72	Blank	
73-80	Card sequence no. (optional)	

2.1.2.6 SNUMB Selection Cards. SNUMB selection cards allow the user to identify specific jobs to be extracted from the data tape and reported. All other jobs will be ignored. If SNUMB selection card(s) are present, they must be preceded by a *SNUMB card (see 2.1.2.5). If no SNUMB selection cards are used, the program will select and report each job found on the tape. A maximum of 750 SNUMB selection cards can be used.

<u>Column</u>	<u>Description</u>	<u>Value</u>
1-5	SNUMB	5 Alphanumeric characters
6-7	Blank	
8-11	Time value for user trace 00	Time of day in HHMM, or blanks
12	Blank	
13-16	Time value for user trace 01	Time of day in HHMM, or blanks

<u>Column</u>	<u>Description</u>	<u>Value</u>
17	Blank	
18-21	Time value for user trace 02	Time of day in HHMM, or blanks
22	Blank	
23-26	Time value for user trace 03	Time of day in HHMM, or blanks
27	Blank	
28-31	Time value for user trace 04	Time of day in HHMM, or blanks
32	Blank	
33-36	Time value for user trace 05	Time of day in HHMM, or blanks
37	Blank	
38-41	Time value for user trace 06	Time of day in HHMM, or blanks
42	Blank	
43-46	Time value for user trace 07	Time of day in HHMM, or
47	Blank	
48-51	Time value for user trace 10	Time of day in HHMM, or blanks
52	Blank	
53-56	Time value for user trace 11	Time of day in HHMM, or blanks
57	Blank	
58-61	Time value for user trace 12	Time of day in HHMM, or blanks
62	Blank	
63-66	Time value for user trace 13	Time of day in HHMM, or blanks

<u>Column</u>	<u>Description</u>	<u>Value</u>
67	Blank	
68-71	Time value for user trace 14	Time of day in HHMM, or blanks
72	Blank	
73-80	Card sequence no. (optional)	

2.1.3 Example. Figure B-1 shows PRE and POST data cards that might be used to describe the sample machine room flow diagrammed in figure A-2. Of particular note is that time point t5 of figure A-2 is defined by GCOS trace number T45 (System Input Begun) in the data cards. (line 6) Recall that T45, by definition (see table A-1), also initiates the system processing phase. Thus, by telling the program to use T45 to terminate the preprocessing phase, the user guarantees no overlap or loss of time accounting at the transition point between preprocessing and system processing.

Similarly, time point t6 of figure A 2 is defined by the later of GCOS traces T57 (SNUMB Finished Printing) and T60 (SNUMB Finished Punching). (lines 8,9) Again, defining the start of post-processing in this manner insures a continuous time accounting at the transition point between system processing and postprocessing.

2.2 Output. Output from RPT12 consists of three major reports written under separate report codes on P*.

2.2.1 Summary Report. The summary report (report code 24) consists of two parts. Part one is a listing of all data cards found in the input stream, along with any error messages generated during editing of these cards.

The second part of this report summarizes for each job the elapsed time (in minutes) spent in the preprocessing, system processing, and postprocessing phases. For system processing only, subtotals are provided for each of the processes (input and scheduling, core allocation, peripheral allocation, execution, termination, waiting to output, and output). The derived model type for each job is also printed.

2.2.2 Model Report. The Model Report (report code 25) summarizes on one page the total elapsed time spent in each phase for each model type. The purpose of this report is to direct the search to one of several system-level reports.

Within the page heading information, the "Requested Time Interval" is the time specified by the user on a LIMITS card. The "Monitor Session Time" represents the elapsed clock time covered in this report and may or may not represent the total elapsed time that the monitor (GMF) was in execution,

depending upon whether a LIMITS card was used or not. The "From" and "To" date/time are each in the format MMDDYY/HHMM.MMM.

2.2.3 System Report. The System Report (report code 26) is a 3-page report consisting of a model summary on each page. For each model, the total elapsed time spent in each process of each phase is summarized. The format of this report matches that of the Model Report.

2.3 Execution JCL.

```

$  SNUBM    RUN12
$  IDENT
$  USERID   USERID$PASSWORD/UZZ
$  OPTION   FORTRAN,NOMAP
$  LOWLOAD
$  USE      RPT12
$  ENTRY    RPT12
$  LIBRARY  UL
$  EXECUTE  DUMP
$  LIMITS   ,47K,-2K
$  PRMFL    UL,R,R,USERID/FEDLIB
$  FFILE    P*,LGU/(06,20,21,22,42)
$  FFILE    10,NSTDLB,NOSRLS,BUFSIZ/4094,FXLNG/4094,ERRXIT/KILL1
$  TAPE     10,X1D,,tape#,,TRACE-DATA
$  DATA    I* (add ,NULL if no data used)

(PRE, POST and LIMITS cards) - optional
*SNUMB                        - required only if SNUMB selection cards
                              follow
(SNUMB Selection Cards)      - optional

$  ENDJOB
***EOF

```


SECTION 3. RPT34 OPERATING INSTRUCTIONS

3.1 Input. Input to RPT34 consists of a GMF produced trace data tape and optional card input.

3.1.1 Tape.

3.1.1.1 Description. The input tape (file code 10) is a trace data tape created by the GMF program when:

- a. The batch trace collector (GMF monitor #7) is turned on.
- b. A nonblank character is punched in column 79 of the GMF input parameter card.

Refer to separate GMF monitor user guide for further details pertaining to the data collection tool.

3.1.1.2 Characteristics. The data tape is comprised of 4094-word blocks, with one logical 4092-word record per block. The tape contains no header or trailer labels and no block serial number processing is performed. The file may be multireel, in which case all tape mounting procedures are controlled by the NXTRECRD subroutine.

Each physical block is comprised of numerous trace information "records". The Batch Turnaround data reduction programs use only those trace records which have either Trace Type 74 or Bit 29 turned on in the record control word. Bit 29 is used by GMF to identify special records signifying end-of-file, lost data, and other special situations. Trace 74 uniquely identifies a record as having been generated by the batch turnaround monitor within GMF.

3.1.1.3 Required Traces. The GCOS traces that the batch reduction program RPT34 expects to find on the input tape are 00, 01, 02, 04, 07, 17, 21, 37, 43, 44, 51 and 65.

3.1.2 Card.

3.1.2.1 Description. The LIMITS card is an optional card that allows users to define a time interval of the data input tape to be analyzed.

<u>Column</u>	<u>Description</u>	<u>Value</u>
1-6	Card ID	"LIMITS"
7	Blank	
8-11	Interval start time	Time of day in HHMM format
12	Blank	

<u>Column</u>	<u>Description</u>	<u>Value</u>
13-16	Interval stop time	Time of day in HHMM format
17-72	Blank	
73-80	Card sequence no. (optional)	

3.2 Output. Output from RPT34 consists of two reports. One is a crude debug report (report code 31) which is of little or no value to the average user and will not be described in detail here. The second is the Activity Execution Model Report (report code 27). The objective of this report is to provide data on system operation at the lowest formalized search model level. Subsequent hypotheses can be developed from these data, as described in the CCTC Tuning Guide.

Within the page heading information, the "Requested Time Interval" is the time specified by the user on a LIMITS card. The "Monitor Session Time" represents the elapsed clock time covered in this report and may or may not represent the total elapsed time that the monitor (GMF) was in execution, depending upon whether a LIMITS card was used or not. The "From" and "To" date/time are each in the format MMDDYY HHMM.MMMM.

All data summarized in this report is extracted from GCOS trace records. In the following discussion, Tnn (00<nn<63g) will denote GCOS trace numbers:

- o CPU EXECUTION - Sum of all active (nonidle) time for all configured CPUs. Thus, in a multiprocessor system, this figure could conceivably exceed the session length. A processor is assumed to go idle when a T21 is issued, and remains idle until the next T0, T1, T2, T37, or T65 occurs. All subsequent time is then considered active time until the next T21.
- o SWAP/COMPACTION TIME - Sum of all time slices initiated by a T43 and terminated by a matching T44.
- o I/O PROCESS TIME
 - TAPE SUM - Sum of four following lines, i.e., service, queue, device, and wait only figures.
 - SERVICE - Sum of all time spent by CPUs in servicing tape I/O requests. Contributing to this total are two time slices: (1) those initiated by a T22 and terminated by a T23, and (2) those initiated by a T4 and terminated by the next T4 or T17, whichever occurs first.
 - QUEUE - Sum of all time spent by tape I/O requests in an I/O queue. Contributing to this total are time slices initiated by a T22 responsible for placing a tape I/O request in an I/O queue and terminated by the T7 responsible for removing that request from the queue.

- DEVICE - Sum of all time spent outside the mainframe in performance of tape I/O. Contributing to this total are time slices initiated by a T7 issuing a connect for tape I/O, and terminated by the corresponding T4 signalling I/O complete.
- WAIT ONLY - Clock time during which all configured CPUs were idle and the only type of outstanding I/O was tape.

The data definition for disk (IAS) and UNIT RECORD devices are identical to those presented for TAPE. The "TOTAL SERVICE TIME" is the sum of the service times for tape, IAS, and unit record devices.

3.3 Execution JCL.

```

$  SNUMB      RUN34
$  IDENT
$  USERID     USERID$PASSWORD/UZZ
$  OPTION     FORTRAN,NOMAP
$  LOWLOAD
$  USE        RPT34
$  ENTRY      RPT34
$  LIBRARY    UL
$  EXECUTE    DUMP
$  LIMITS     ,38K,-2K
$  PRMFL      UL,R,R,USERID/FEDLIB
$  FFILE      P*,LQU/(06,23,24,25,42)
$  FFILE      10,NSTDLB,NOSRLS,BUFSIZ/4094,FXLNG/4094,ERRXIT/KILL2
$  TAPE       10,X1D,,tape#,,TRACE-DATA
$  DATA      I* (add ,NULL if no data)

LIMITS from to - optional

$  ENDJOB

***EOF

```


APPENDIX C

MASS STORE MONITOR/CHANNEL MONITOR

C.1 Mass Store Monitor.

This appendix describes the five Mass Store Monitor (MSM) reports that are used in the Guide Batch Turnaround Time Analysis Procedures. For a complete description of the Mass Store Monitor (both data collector and data reduction) the reader should reference the General Monitor Facility Users Manual, CSM UM 246-78.

1. Report Formats and Data Elements

Five MSM reports are used in the Batch Turnaround Time Analysis Procedures (see Volume II).

a. Seek Movement Report. The Seek Movement Histogram (figure C-1) is produced for each device in the mass storage subsystems monitored. This report is generated using the absolute values of the differences between the cylinder addresses of each successive access to the device. A column headed "CYLINDER MOVED" contains the range of seek movement distance for each line of the report. The column headed "INDIV. NUMBER" contains the numbers of accesses which caused the arm to be moved that distance. The "INDIV. PROB." and "CUMUL. PROB." columns give the individual and cumulative percentages of the accesses which resulted in a particular range of cylinder movement. The percentages are based on the total accesses to that individual device. The statistics at the bottom of the report relate to the average, variance, and standard deviation of seek lengths expressed in cylinders.

b. Space Utilization Report. The device Space Utilization Histogram (figure C-2) is produced for each device on the mass storage subsystem selected for analysis. The entries in the column "CYLNDR NUMBER" give the ranges of cylinders that form each histogram bucket. The number of cylinders in each bucket is a function of the device type. The entries in the column headed "INDIV. PROB." gives the percentages of all accesses to the device which were made within each cylinder range.

c. System File Use Summary Report. Figure C-3 shows the format of the System File Use Summary Report. This report shows where each GCOS System File is located and the extent to which it was accessed during the measurement session. Only those files accessed are displayed. The sum of accesses to all system files is displayed as a percentage of all mass storage accesses. This report also lists all GCOS modules loaded into hard core.

d. File Summary Report. The File Summary Report (see figure C-4) lists the file description and activity for each mass storage file during the monitoring. Files with no activity are not reported. Each activity is identified by SNUMB, Activity Number, and \$IDENT Card display. There is one data line for each mass storage file used by the activity. Each

file is identified by its two-character file code, the device on which it was allocated ("ALLOCATED DEVICE"), and its origin on that device ("FILE ORIGIN") in units of llinks (320 words) and cylinders relative to the beginning of the device. The size of the file ("FILE SIZE") is displayed in llinks and cylinders. The column headed "CONNECTS" gives the number of accesses made to the file.

e. Individual Module Activity Report. This report (Figure C-5) includes a single line entry for each GCOS module accessed. Each entry includes the System File Name, Module Name, and Module Type. The module location, access count, and percentage of System File usage are then reported.

SPACE UTILIZATION OF IOM-0,PUB-08,DEVICE-01-- DSS191

REPORT
S

[illegible]

Figure C-2. . MSM Space Utilization Report

 * * * SYSTEM FILE USE SUMMARY * * *

FILE NUMBER	FILE NAME	IOB-PLD-DEV	STARTING SECTOR/CYLINDER	LENGTH (SECTOR)	ACCESSES
2	SYSTEM FILE2	0- 8- 2	40/ 0	5000	36
3	SYSTEM FILE3	0- 8- 2	6300/ 8	5000	188
4	SYSTEM FILE4	0- 8- 1	11040/ 14	2500	2793
5	SYSTEM FILE5	0- 8- 2	13300/ 17	4000	578
7	SYSTEM FILE7	0- 8- 1	15040/ 19	10000	64
9	SYSTEM FILE9	0-12- 7	9500/ 12	7600	86
10	SYSTEM FILE10	0-12- 7	25500/ 33	16000	110

				TOTAL	3855(112)
MBRT1	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MCPI0	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MDISP	LOADED BY STARTUP	TYPE IS	# ACCESSES = 41522		
MDNET	LOADED BY STARTUP	TYPE IS	# ACCESSES = 19		
MDUMP	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MFALT	LOADED BY STARTUP	TYPE IS	# ACCESSES = 401		
MGEPR	LOADED BY STARTUP	TYPE IS	# ACCESSES = 430		
MSCN1	LOADED BY STARTUP	TYPE IS	# ACCESSES = 5087		
MGP01	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MGPI0	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MIDSC	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MIOS	LOADED BY STARTUP	TYPE IS	# ACCESSES = 45694		
MTAP	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MPRI0	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MR0UT	LOADED BY STARTUP	TYPE IS	# ACCESSES = 51		
MSYOT	LOADED BY STARTUP	TYPE IS	# ACCESSES = 59		
MTYPE	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MDSX1	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MDSX5	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MDSX6	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MFS10	LOADED BY STARTUP	TYPE IS	# ACCESSES = 2633		
MSECR	LOADED BY STARTUP	TYPE IS	# ACCESSES = 206		
MXX06	LOADED BY STARTUP	TYPE IS	# ACCESSES = 8355		
MXX01	LOADED BY STARTUP	TYPE IS	# ACCESSES = 763		
MDNWJ	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MR7WJ	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MM776	LOADED BY STARTUP	TYPE IS	# ACCESSES =		
MM777	LOADED BY STARTUP	TYPE IS	# ACCESSES =		

Figure C-3. MSM System File Use Summary Report

 ** FILE SUMMARY **

SNUMB,ACTVY #,IDENT,USERID 96832- 2				1820115/10/6052,SARA-H		72810P12	
-----				-----		-----	
FILE CODE		CONNECTS		FILE SIZE		FILE ORIGIN	
				(LLINK/CYLINDER)		(LLINK/CYLINDER)	
S1	T R N F	449		6000/ 40		0-12- 7	
S6	T R N F	249		6000/ 40		1-10-13	
S5	T R N F	197		6000/ 40		2- 9- 4	
S4	T R N F	75		6000/ 40		0- 8- 6	
S3	T R N F	78		6000/ 40		0- 8-10	
S2	T R N F	92		6000/ 40		16369/107	
00		20		0/ 0		49332/324	
--	P R N F	1		0/ 0		0/ 0	
-----				-----		-----	
SNUMB,ACTVY #,IDENT,USERID \$GENB- 0 1820251/30/3044,C702				1820011/30/6071,LANT1		498CDP10	
-----				-----		-----	
FILE CODE		CONNECTS		FILE SIZE		FILE ORIGIN	
				(LLINK/CYLINDER)		(LLINK/CYLINDER)	
00		44		0/ 0		0- 8- 1	
RD	T S N F	4		1/ 1		1-10- 9	
*J	T R N F	4		144/ 1		1- 8- 9	
J*	T R N F	4		12/ 1		0-12- 5	
-----				-----		-----	
SNUMB,ACTVY #,IDENT,USERID 46157- 2				1820011/30/6071,LANT1		498CDP10	
-----				-----		-----	
FILE CODE		CONNECTS		FILE SIZE		FILE ORIGIN	
				(LLINK/CYLINDER)		(LLINK/CYLINDER)	
AD	P R C F	7692		0/ 0		0- 8-12	
QR	T S N F	1		4440/ 30		1- 8- 5	

Figure C-4. MSM File Summary Report

INDIVIDUAL MODULE ACTIVITY						
SYSTEM FILE	MODULE NAME	TYPE	IOM-PUB-DEVICE	SECTOR IN FILE	# ACCESSES	% OF ACTIVITY
SYSTEM FILES	.MAC10	STANDARD SSA	0-8-2	13710	7	0
SYSTEM FILES	.MAC02	STANDARD SSA	0-8-2	13719	14	0
SYSTEM FILES	.MAC05	STANDARD SSA	0-8-1	11060	30	0
SYSTEM FILES	.MAC06	STANDARD SSA	0-8-1	11069	113	2
SYSTEM FILES	.MAC07	STANDARD SSA	0-8-1	11078	10	0
SYSTEM FILES	.MAC17	STANDARD SSA	0-8-2	14001	2	0
SYSTEM FILES	.MAC09	STANDARD SSA	0-8-1	11087	109	2
SYSTEM FILES	.MBRT2	STANDARD SSA	0-8-1	11096	13	0
SYSTEM FILES	.MBRT6	ABSOLUTE PRG	0-8-1	11149	11	0
SYSTEM FILES	.MCAL1	STANDARD SSA	0-8-1	11217	204	5
SYSTEM FILES	.MCAL2	STANDARD SSA	0-8-2	14029	9	0
SYSTEM FILES	.MFLT1	STANDARD SSA	0-8-1	11333	208	5
SYSTEM FILES	.MFS01	STANDARD SSA	0-8-1	11403	2	0
SYSTEM FILES	.MFS02	STANDARD SSA	0-8-1	11410	2	0
SYSTEM FILES	.MFS03	STANDARD SSA	0-8-1	11419	284	7
SYSTEM FILES	.MFS04	STANDARD SSA	0-8-1	11428	234	6
SYSTEM FILES	.MFS05	STANDARD SSA	0-8-1	11437	18	0
SYSTEM FILES	.MFS07	STANDARD SSA	0-8-1	11455	52	1
SYSTEM FILES	.MFS08	STANDARD SSA	0-8-1	11464	210	5
SYSTEM FILES	.MFS09	STANDARD SSA	0-8-1	11473	252	6
SYSTEM FILES	.MFS10	STANDARD SSA	0-8-1	11482	1	0
SYSTEM FILES	.MFS15	STANDARD SSA	0-8-1	11522	64	1
SYSTEM FILES	.MFS16	STANDARD SSA	0-8-1	11531	21	0
SYSTEM FILES	.MFS18	STANDARD SSA	0-8-1	11549	4	0
SYSTEM FILES	.MFS19	STANDARD SSA	0-8-1	11557	10	0
SYSTEM FILES	.MFS20	STANDARD SSA	0-8-1	11566	1	0
SYSTEM FILES	.MFS23	STANDARD SSA	0-8-1	11592	18	0
SYSTEM FILES	.MFS24	STANDARD SSA	0-8-1	11599	15	0
SYSTEM FILES	.MFS27	STANDARD SSA	0-8-1	11625	11	0
SYSTEM FILES	.MGEIN	ABSOLUTE PRG	0-8-1	12119	10	0
SYSTEM FILES	.MGEM1	ABSOLUTE PRG	0-8-1	12183	2	0
SYSTEM FILES	.MGEM2	ABSOLUTE PRG	0-8-1	12200	27	0
SYSTEM FILES	.MSCM2	STANDARD SSA	0-8-2	19298	7	0
SYSTEM FILES	.MSCM3	STANDARD SSA	0-8-2	19305	12	0
SYSTEM FILES	.MGNA1	STANDARD SSA	0-8-2	6306	18	0
SYSTEM FILES	.MGNA2	STANDARD SSA	0-8-1	12329	17	0
SYSTEM FILES	.MGOU1	STANDARD SSA	0-8-1	12347	12	0
SYSTEM FILES	.MGOU3	EXCEPT PROC	0-8-1	12405	1	0
SYSTEM FILES	.MGPO3	EXCEPT PROC	0-8-1	12410	1	0
SYSTEM FILES	.MGPO4	EXCEPT PROC	0-8-1	12425	1	0
SYSTEM FILES	.MGPO9	EXCEPT PROC	0-8-1	12425	1	0

Figure C-5. MSM Individual Module Activity Report

C.2. Channel Monitor.

This appendix describes a series of Channel Monitor (PSM) reports that are used in the Guide Batch Turnaround Time Analysis Procedures. For a complete description of the Channel Monitor (both data collector and data reduction) the reader should reference the General Monitor Facility Users Manual, CSM UM 246-78.

1. Report Formats and Data Elements

Six PSM reports are used in the Batch Turnaround Time Analysis Procedures (see Volume II).

a. Physical Device, Device ID Correlation Table

The Device ID Correlation Table (see figure C-6) associates a unique device ID # with an actual configured device. The reason for this is because devices configured on different channels can have the same device #. (See figure C-6 ID #1, #16, #28.) In order to differentiate between these different devices, a unique ID is associated with each.

b. Channel-Device Busy Report (figure C-7)

In the Honeywell system queuing for a channel will occur only on the physical channel and not on any of the logical channels. This queuing will occur however, only when the physical channel and all logical channels are busy. This report displays the number of connects to a particular device over a given channel configuration (physical and logical channels) that had to be queued by IOS because all physical and logical channels and the device were busy at the time of the I/O service request.

c. Channel Busy - Device Free Report

(figure C-8). The same as in B except that in this case the device was free at the time of the I/O service request.

d. Channel Free - Device Busy Report

(figure C-9). The same as in B except that at least one logical channel was free but the device was busy.

e. Channel Free - Device Free Report

(figure C-10) This report displays the number of connects to a particular device which were serviced immediately without any queuing for either a channel or the device.

THE PHYSICAL DEVICE, DEVICE ID CORRELATION TABLE

DEVICE ID-1	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #01
DEVICE ID-2	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #02
DEVICE ID-3	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #03
DEVICE ID-4	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #04
DEVICE ID-5	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #05
DEVICE ID-6	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #06
DEVICE ID-7	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #07
DEVICE ID-8	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #08
DEVICE ID-9	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #09
DEVICE ID-10	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #10
DEVICE ID-11	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #11
DEVICE ID-12	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #12
DEVICE ID-13	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #13
DEVICE ID-14	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #14
DEVICE ID-15	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #15
DEVICE ID-16	IS FOUND ON	10M-3	PUR-0A	AND IS	DEVICE #16
DEVICE ID-17	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #01
DEVICE ID-18	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #02
DEVICE ID-19	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #03
DEVICE ID-20	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #04
DEVICE ID-21	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #05
DEVICE ID-22	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #06
DEVICE ID-23	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #07
DEVICE ID-24	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #08
DEVICE ID-25	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #09
DEVICE ID-26	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #10
DEVICE ID-27	IS FOUND ON	10M-3	PUR-12	AND IS	DEVICE #11
DEVICE ID-28	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #01
DEVICE ID-29	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #02
DEVICE ID-30	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #03
DEVICE ID-31	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #04
DEVICE ID-32	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #05
DEVICE ID-33	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #06
DEVICE ID-34	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #07
DEVICE ID-35	IS FOUND ON	10M-3	PUR-14	AND IS	DEVICE #08
DEVICE ID-36	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #01
DEVICE ID-37	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #02
DEVICE ID-38	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #03
DEVICE ID-39	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #04
DEVICE ID-40	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #05
DEVICE ID-41	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #06
DEVICE ID-42	IS FOUND ON	10M-2	PUR-14	AND IS	DEVICE #07

Figure C-6. The Physical Device, Device ID Correlation Table

CHANNEL-DEVICE BUSY REPORT

CHANNEL 1 AND DEVICE ID 1 BOTH BUSY	20 TIMES
CHANNEL 1 AND DEVICE ID 2 BOTH BUSY	51 TIMES
CHANNEL 1 AND DEVICE ID 4 BOTH BUSY	3 TIMES
CHANNEL 1 AND DEVICE ID 5 BOTH BUSY	3 TIMES
CHANNEL 1 AND DEVICE ID 7 BOTH BUSY	3 TIMES
CHANNEL 1 AND DEVICE ID 8 BOTH BUSY	13 TIMES
CHANNEL 1 AND DEVICE ID 9 BOTH BUSY	3 TIMES
CHANNEL 1 AND DEVICE ID 12 BOTH BUSY	1 TIMES
CHANNEL 1 AND DEVICE ID 15 BOTH BUSY	36 TIMES
CHANNEL 1 AND DEVICE ID 16 BOTH BUSY	2 TIMES
CHANNEL 12 AND DEVICE ID 17 BOTH BUSY	9 TIMES
CHANNEL 12 AND DEVICE ID 19 BOTH BUSY	26 TIMES
CHANNEL 12 AND DEVICE ID 20 BOTH BUSY	23 TIMES
CHANNEL 12 AND DEVICE ID 21 BOTH BUSY	64 TIMES
CHANNEL 12 AND DEVICE ID 22 BOTH BUSY	52 TIMES
CHANNEL 12 AND DEVICE ID 23 BOTH BUSY	3 TIMES
CHANNEL 12 AND DEVICE ID 24 BOTH BUSY	10 TIMES
CHANNEL 12 AND DEVICE ID 25 BOTH BUSY	9 TIMES
CHANNEL 12 AND DEVICE ID 26 BOTH BUSY	3 TIMES
CHANNEL 12 AND DEVICE ID 27 BOTH BUSY	1 TIMES

Figure C-7. Channel-device Busy Report

CHANNEL BUSY AND DEVICE FREE REPORT

CHANNEL 1	BUSY AND DEVICE ID 1	NOT BUSY	7 TIMES
CHANNEL 2	BUSY AND DEVICE ID 2	NOT BUSY	4 TIMES
CHANNEL 3	BUSY AND DEVICE ID 3	NOT BUSY	17 TIMES
CHANNEL 4	BUSY AND DEVICE ID 4	NOT BUSY	2 TIMES
CHANNEL 5	BUSY AND DEVICE ID 5	NOT BUSY	5 TIMES
CHANNEL 6	BUSY AND DEVICE ID 6	NOT BUSY	4 TIMES
CHANNEL 7	BUSY AND DEVICE ID 7	NOT BUSY	1 TIMES
CHANNEL 8	BUSY AND DEVICE ID 8	NOT BUSY	5 TIMES
CHANNEL 9	BUSY AND DEVICE ID 9	NOT BUSY	2 TIMES
CHANNEL 10	BUSY AND DEVICE ID 10	NOT BUSY	1 TIMES
CHANNEL 11	BUSY AND DEVICE ID 11	NOT BUSY	6 TIMES
CHANNEL 12	BUSY AND DEVICE ID 12	NOT BUSY	3 TIMES
CHANNEL 13	BUSY AND DEVICE ID 13	NOT BUSY	43 TIMES
CHANNEL 14	BUSY AND DEVICE ID 14	NOT BUSY	35 TIMES
CHANNEL 15	BUSY AND DEVICE ID 15	NOT BUSY	32 TIMES
CHANNEL 16	BUSY AND DEVICE ID 16	NOT BUSY	111 TIMES
CHANNEL 17	BUSY AND DEVICE ID 17	NOT BUSY	128 TIMES
CHANNEL 18	BUSY AND DEVICE ID 18	NOT BUSY	44 TIMES
CHANNEL 19	BUSY AND DEVICE ID 19	NOT BUSY	36 TIMES
CHANNEL 20	BUSY AND DEVICE ID 20	NOT BUSY	29 TIMES
CHANNEL 21	BUSY AND DEVICE ID 21	NOT BUSY	22 TIMES
CHANNEL 22	BUSY AND DEVICE ID 22	NOT BUSY	43 TIMES

Figure C-8. Channel Busy and Device Free Report

CHANNEL FREE DEVICE BUSY REPORT

DEVICE IN	1	BUSY	5436	TIMES
DEVICE IN	2	BUSY	4231	TIMES
DEVICE IN	3	BUSY	32	TIMES
DEVICE IN	4	BUSY	794	TIMES
DEVICE IN	5	BUSY	606	TIMES
DEVICE IN	7	BUSY	1890	TIMES
DEVICE IN	8	BUSY	891	TIMES
DEVICE IN	9	BUSY	278	TIMES
DEVICE IN	10	BUSY	120	TIMES
DEVICE IN	12	BUSY	37	TIMES
DEVICE IN	13	BUSY	32	TIMES
DEVICE IN	14	BUSY	20	TIMES
DEVICE IN	15	BUSY	3701	TIMES
DEVICE IN	16	BUSY	1224	TIMES
DEVICE IN	17	BUSY	107	TIMES
DEVICE IN	19	BUSY	1064	TIMES
DEVICE IN	20	BUSY	283	TIMES
DEVICE IN	21	BUSY	3304	TIMES
DEVICE IN	22	BUSY	2572	TIMES
DEVICE IN	23	BUSY	46	TIMES
DEVICE IN	24	BUSY	192	TIMES
DEVICE IN	25	BUSY	841	TIMES
DEVICE IN	26	BUSY	33	TIMES
DEVICE IN	27	BUSY	46	TIMES
DEVICE IN	35	BUSY	1	TIMES
DEVICE IN	36	BUSY	8	TIMES
DEVICE IN	42	BUSY	296	TIMES

Figure C-9. Channel Free Device Busy Report

CHANNEL FREE DEVICE FREE REPORT

DEVICE IN	1	FREE	4505	TIMES	DEVICE IN	24	FREE	74	TIMES
DEVICE IN	2	FREE	12414	TIMES	DEVICE IN	29	FREE	160	TIMES
DEVICE IN	3	FREE	18548	TIMES	DEVICE IN	30	FREE	12	TIMES
DEVICE IN	4	FREE	27547	TIMES	DEVICE IN	31	FREE	66	TIMES
DEVICE IN	5	FREE	9972	TIMES	DEVICE IN	32	FREE	90	TIMES
DEVICE IN	6	FREE	164	TIMES	DEVICE IN	33	FREE	30	TIMES
DEVICE IN	7	FREE	43133	TIMES	DEVICE IN	34	FREE	223	TIMES
DEVICE IN	8	FREE	6765	TIMES	DEVICE IN	35	FREE	164	TIMES
DEVICE IN	9	FREE	5345	TIMES	DEVICE IN	36	FREE	736	TIMES
DEVICE IN	10	FREE	6249	TIMES	DEVICE IN	37	FREE	163	TIMES
DEVICE IN	11	FREE	90	TIMES	DEVICE IN	38	FREE	255	TIMES
DEVICE IN	12	FREE	1577	TIMES	DEVICE IN	39	FREE	161	TIMES
DEVICE IN	13	FREE	1206	TIMES	DEVICE IN	40	FREE	161	TIMES
DEVICE IN	14	FREE	1150	TIMES	DEVICE IN	41	FREE	162	TIMES
DEVICE IN	15	FREE	13005	TIMES	DEVICE IN	42	FREE	2406	TIMES
DEVICE IN	16	FREE	12194	TIMES					
DEVICE IN	17	FREE	4597	TIMES					
DEVICE IN	18	FREE	146	TIMES					
DEVICE IN	19	FREE	6635	TIMES					
DEVICE IN	20	FREE	2155	TIMES					
DEVICE IN	21	FREE	24464	TIMES					
DEVICE IN	22	FREE	24737	TIMES					
DEVICE IN	23	FREE	2160	TIMES					
DEVICE IN	24	FREE	2277	TIMES					
DEVICE IN	25	FREE	4151	TIMES					
DEVICE IN	26	FREE	467	TIMES					

Figure C-10. Channel Free Device Free Report

f. PSM Configuration Report

(figure C-11) This report describes the entire disk configuration and the number of connects issued over each configured channel. If a channel is not listed it means that no connects were issued over that channel.

.....
 *** PHYSICAL STORAGE MONITOR ***

TAPE # 24002 24143
 OSCC W5.3.1 77-12-13 13136120 14107164
 MONITOR COSTS: CALLS- 1354450, COST- 1301500, COST/CALL- 99(USECS)

CONFIGURATION: QUAD PROCESSOR 6640, TRIPLE I/O, 496K MEMORY - 61 OF WHICH WERE MCM

I/O NUMBER 0			
CHANNEL	TYPE	CROSSBAR	CONNECTS
0-00	.DS101	0-09	57471
		0-10	
		0-11	
		1-0A	
		1-09	
		1-10	
		1-11	
0-09	.DS101	SEE ABOVE	9934
0-10	.DS101	SEE ABOVE	23191
0-11	.DS101	SEE ABOVE	301
0-12	.DS101	0-13	32499
		2-12	
		2-13	
0-13	.DS101	SEE ABOVE	2232
0-14	.DS101	0-15	27
		0-16	
		0-17	
		1-14	
		1-15	
		1-16	
		1-17	
0-16	.DS101	SEE ABOVE	31
		I/O NUMBER 1	
CHANNEL	TYPE	CROSSBAR	CONNECTS
1-0A	.DS101	SEE ABOVE	36230
1-09	.DS101	SEE ABOVE	1211
1-10	.DS101	SEE ABOVE	51461
1-11	.DS101	SEE ABOVE	3969
1-14	.DS101	SEE ABOVE	675
1-16	.DS101	SEE ABOVE	24
		I/O NUMBER 2	
CHANNEL	TYPE	CROSSBAR	CONNECTS
2-12	.DS101	SEE ABOVE	4986
2-13	.DS101	SEE ABOVE	632
2-14	.DS101	2-15	4596
		2-16	
		2-17	
2-16	.DS101	SEE ABOVE	165

Figure C-11. Physical Storage Monitor

APPENDIX D
GCOS REPORTS

GCOS REPORTS

This appendix describes the GCOS reports that are used in the Batch Turnaround Time Analysis Procedures. The source for this information is the GCOS System Startup and Operation Manual (DA06).

Three GCOS startup reports are referenced in batch turnaround time analysis procedures: (1) GCOS File Map, (2) GCOS Memory Map, and (3) GCOS System Map.

1. GCOS File Map

This report (see figure D-1) lists the GCOS libraries and files defined during the startup process. For each file, the following information is listed: (1) file name, (2) device housing the file, (3) starting llink of the file, and (4) total number of llinks in the file.

2. GCOS Memory Map

This report (see figure D-2) lists the GCOS modules loaded into hard core. The following information is listed for each module: (1) module name, (2) origin address, (3) entry address, and (4) file from which module was loaded.

3. GCOS System Map

This report (see figure D-3) lists the GCOS programs in all catalogued GCOS libraries. The following information is listed for each module: (1) program name, (2) section number where file begins, and (3) file where program is recorded. The GCOS File Map indicates the device where each library is housed.

GCOS III FILE MAP (7/3/69)

FILE	DEVICE	STARTING LLINK	TOTAL LLINKS	FILE	DEVICE	STARTING LLINK	TOTAL LLINKS
MASTER ST1	ST1	7	1	AUTOLOAD	ST1	8	800
ST1	ST1	800	300	AMIX-SOFT4	ST1	1600	1000
GCOS-MAIN-USE	ST1	2600	600	END-INSERT	ST1	3000	720
SOFTW-SYST10	ST1	3000	900	GCOS-MI-JSE	ST1	4000	800
GCOS-LQ-USE	ST1	5400	2000	I-AND-O	ST1	7400	900
TSS-SUB-SYS	ST1	6300	900	SOFTW-PRIVE	ST1	9200	1500
SOFTW-SECOND	ST1	10700	3200	DMS-SOFTW	ST1	13900	2200
LUAP	ST1	16100	144	BACKDOOR	ST1	16252	12
PRINTIMAGE	ST1	16264	24	SSFILE	ST1	16280	36
MASTER ST2	ST2	7	1	SYJUI	ST2	8	13000
SYJ02	ST2	13000	13000				

Figure D-1. GCOS File Map

GECOS III MEMORY MAP			
MODULE	ORIGIN	ENTRY	FILE
.MSECR	007510	007510	CARD READER
.M9RT1	021760	021760	GECOS-LJ-JSE
.M7ISP	022510	022521	GECOS-LO-JSE
.MJUMP	027420	027702	GECOS-LJ-JSE
.MFALT	031400	031435	GECOS-LJ-JSE
.MGEPR	035620	035620	GECOS-LO-JSE
.MSCM1	040470	040505	GECOS-LJ-JSE
.MGP01	041470	041470	GECOS-MI-JSE
.MIOS	042330	042350	GECOS-LJ-JSE
.MHTAP	053450	053450	GECOS-LJ-JSE
.MPRIO	054700	054700	GECOS-LJ-JSE
.MSYJT	055230	055230	GECOS-LJ-JSE
.MTYPE	061130	061130	GECOS-LO-JSE
.MOSX1	061570	061570	GECOS-LJ-JSE
.MOSX5	063260	063310	GECOS-LJ-JSE
.MOSX6	064730	064730	GECOS-LJ-JSE
.MFSIO	066320	066320	GECOS-MI-JSE
.MONWH	067140	067140	GECOS-MI-JSE
.MRTWH	103770	103770	GECOS-MI-JSE
.MCPIO	111630	111630	GECOS-LJ-JSE
.MGPIO	112110	112110	GECOS-LJ-JSE
.MIOSC	112350	112350	GECOS-LJ-JSE
.MPOP4	115630	157061	GECOS-

Figure D-2. GCOS Memory Map

SECOS III SYSTEM MAP					
PROGRAM	SECTOR IN	FILE	PROGRAM	SECTOR IN	FILE
.MAG00	5	SECOS-LO-USE	.MAG02	14	SECOS-0-USE
.MAG01	31	SECOS-LO-USE	.MAG03	5	SECOS-0-USE
.MAG02	249	SECOS-LO-USE	.MAG04	13	SECOS-0-USE
.MAG03	31	SECOS-LO-USE	.MAG05	295	SECOS-0-USE
.MAG04	383	SECOS-LO-USE	.MAG06	49	SECOS-0-USE
.MAG05	37	SECOS-LO-USE	.MAG07	75	SECOS-0-USE
.MAG06	179	SECOS-LO-USE	.MAG08	324	SECOS-0-USE
.MAG07	338	SECOS-LO-USE	.MAG09	347	SECOS-0-USE
.MAG08	584	SECOS-LO-USE	.MAG10	592	SECOS-0-USE
.MAG09	689	SECOS-LO-USE	.MAG11	780	SECOS-0-USE
.MAG10	1313	SECOS-LO-USE	.MAG12	341	SECOS-0-USE
.MAG11	372	SECOS-LO-USE	.MAG13	488	SECOS-0-USE
.MAG12	399	SECOS-LO-USE	.MAG14	435	SECOS-0-USE
.MAG13	426	SECOS-LO-USE	.MAG15	462	SECOS-0-USE
.MAG14	453	SECOS-LO-USE	.MAG16	484	SECOS-0-USE
.MAG15	477	SECOS-LO-USE	.MAG17	511	SECOS-0-USE
.MAG16	502	SECOS-LO-USE	.MAG18	536	SECOS-0-USE
.MAG17	528	SECOS-LO-USE	.MAG19	561	SECOS-0-USE
.MAG18	554	SECOS-LO-USE	.MAG20	587	SECOS-0-USE
.MAG19	578	SECOS-LO-USE	.MAG21	1131	SECOS-0-USE
.MAG20	603	SECOS-LO-USE	.MAG22	1273	SECOS-0-USE
.MAG21	1152	SECOS-LO-USE	.MAG23	654	SECOS-0-USE
.MAG22	1718	SECOS-LO-USE	.MAG24	74	SECOS-0-USE
.MAG23	5599	SECOS-LO-USE	.MAG25	1109	SECOS-0-USE
.MAG24	1300	SECOS-LO-USE	.MAG26	1352	SECOS-0-USE
.MAG25	1324	SECOS-LO-USE	.MAG27	1372	SECOS-0-USE
.MAG26	1367	SECOS-LO-USE	.MAG28	1392	SECOS-0-USE
.MAG27	1387	SECOS-LO-USE	.MAG29	1407	SECOS-0-USE
.MAG28	1422	SECOS-LO-USE	.MAG30	1422	SECOS-0-USE
.MAG29	1417	SECOS-LO-USE	.MAG31	1435	SECOS-0-USE
.MAG30	1431	SECOS-LO-USE	.MAG32	1448	SECOS-0-USE
.MAG31	1441	SECOS-LO-USE	.MAG33	1463	SECOS-0-USE
.MAG32	1458	SECOS-LO-USE	.MAG34	1473	SECOS-0-USE
.MAG33	1473	SECOS-LO-USE	.MAG35	1946	SECOS-0-USE
.MAG34					
.MAG35					
.MAG36					
.MAG37					
.MAG38					
.MAG39					
.MAG40					
.MAG41					
.MAG42					
.MAG43					
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.MAG99					
.MAG100					

Figure D-3. GCOS System Map

APPENDIX E
MEMORY UTILIZATION MONITOR

MEMORY UTILIZATION MONITOR/CPU MONITOR

This appendix describes the four reports generated by Memory Utilization Monitor (MUM), the CPU Monitor and the Tape Monitor that are used in the Batch Turnaround Time Analysis Procedures. The source for this information is the General Monitor Facility Users Guide. For a complete description of both the data collector and data reduction program the reader should refer to the GMF Users Guide.

The four reports used in the Batch Turnaround Time Analysis Procedures are described in the following paragraphs.

1. Total Elapsed Time An Activity Was In Memory Report.

This report (see figure E-2) shows the duration of elapsed time each activity had memory allocated to it. An entry is made for each activity that terminates.

2. The Elapsed Wait Time For Memory Requests In 1/10 Second.

This report (see figure E-3) shows how long activities waited for memory. When an activity requests memory, either at first demand or upon swap, the time is marked. Upon allocation for the activity, the time is again marked and the difference used in the value for this report. The 1/10 second time span can be altered by parameter. An entry is made whenever an activity is allocated memory.

3. CPU Utilization Report. This report (see figure E-4) provides several metrics of CPU utilization. The report is generated for specific intervals during the measurement session. Data entry line number one (see figure E-4) displays the cumulative CPU time for system and user jobs. Line two displays Overhead and Idle Time for each processor in the configuration. Line three displays the following values for the intermediate display period: (1) Percent System CPU, (2) Percent TSS CPU, (3) Percent PWIN CPU, (4) Percent User CPU, and (5) Percent Idle Time. Line four displays the same data values for the monitor session.

DATE 05-22-77

UNCLASSIFIED

DISTRIBUTION COLLECTED ON SYSTEM MMS1 AT 17:14:53 ON 77-02-07

THE ELAPSED WAIT TIME FOR MEMORY REQUESTS IN 1/10 SECOND																
INDIV. NUMBER	CUMUL. NUMBER	CUMUL. PROB.	INDIV. PROB.	WAIT TIME	00	10	20	30	40	50	60	70	80	90	100	REPORT
303	308	0.508	0.508	0-24	1	1	1	1	1	1	1	1	1	1	1	22
306	414	0.683	0.175	25-49	1	1	1	1	1	1	1	1	1	1	1	
309	453	0.748	0.064	50-74	1	1	1	1	1	1	1	1	1	1	1	
312	477	0.787	0.040	75-99	1	1	1	1	1	1	1	1	1	1	1	
315	506	0.835	0.048	100-124	1	1	1	1	1	1	1	1	1	1	1	
318	520	0.858	0.023	125-149	1	1	1	1	1	1	1	1	1	1	1	
321	533	0.880	0.021	150-174	1	1	1	1	1	1	1	1	1	1	1	
324	543	0.896	0.017	175-199	1	1	1	1	1	1	1	1	1	1	1	
327	551	0.909	0.013	200-224	1	1	1	1	1	1	1	1	1	1	1	
330	555	0.916	0.007	225-249	1	1	1	1	1	1	1	1	1	1	1	
333	558	0.921	0.005	250-274	1	1	1	1	1	1	1	1	1	1	1	
336	562	0.927	0.007	275-299	1	1	1	1	1	1	1	1	1	1	1	
339	566	0.934	0.007	300-324	1	1	1	1	1	1	1	1	1	1	1	
342	569	0.939	0.005	325-349	1	1	1	1	1	1	1	1	1	1	1	
345	571	0.942	0.003	350-374	1	1	1	1	1	1	1	1	1	1	1	
348	572	0.944	0.002	375-399	1	1	1	1	1	1	1	1	1	1	1	
351	574	0.947	0.003	400-424	1	1	1	1	1	1	1	1	1	1	1	
354	575	0.949	0.002	425-449	1	1	1	1	1	1	1	1	1	1	1	
357	579	0.955	0.007	450-474	1	1	1	1	1	1	1	1	1	1	1	
360	582	0.960	0.005	475-499	1	1	1	1	1	1	1	1	1	1	1	
363	585	0.965	0.005	500-524	1	1	1	1	1	1	1	1	1	1	1	
366	588	0.970	0.005	525-549	1	1	1	1	1	1	1	1	1	1	1	
369	590	0.974	0.003	550-574	1	1	1	1	1	1	1	1	1	1	1	
372	591	0.975	0.002	575-599	1	1	1	1	1	1	1	1	1	1	1	
375	591	0.975	0.002	600-624	1	1	1	1	1	1	1	1	1	1	1	
378	592	0.977	0.002	625-649	1	1	1	1	1	1	1	1	1	1	1	
381	593	0.979	0.002	650-674	1	1	1	1	1	1	1	1	1	1	1	
384	596	0.983	0.005	675-699	1	1	1	1	1	1	1	1	1	1	1	
387	596	0.985	0.002	700-724	1	1	1	1	1	1	1	1	1	1	1	
390	597	0.985	0.002	725-749	1	1	1	1	1	1	1	1	1	1	1	
393	597	0.985	0.002	750-774	1	1	1	1	1	1	1	1	1	1	1	
396	597	0.985	0.002	775-799	1	1	1	1	1	1	1	1	1	1	1	
399	597	0.985	0.002	800-824	1	1	1	1	1	1	1	1	1	1	1	
402	597	0.985	0.002	825-849	1	1	1	1	1	1	1	1	1	1	1	
405	598	0.987	0.002	850-874	1	1	1	1	1	1	1	1	1	1	1	
408	598	0.987	0.002	875-899	1	1	1	1	1	1	1	1	1	1	1	
411	598	0.987	0.002	900-924	1	1	1	1	1	1	1	1	1	1	1	
414	599	0.988	0.002	925-949	1	1	1	1	1	1	1	1	1	1	1	
AVERAGE FOR THESE = 95.5576 VARIANCE = 92771.577 STANDARD DEVIATION = 304.583																

600 ENTRIES TOTAL AVERAGE = 95.5576 VARIANCE = 92771.577 STANDARD DEVIATION = 304.584
 / OUT OF RANGE AVERAGE FOR THESE = 2016.63715

Figure E-2. MUM Average Elapsed Wait Time Report

DATE 05-22-77

UNCLASSIFIED

ELAPSED TIME THUS FAR IN SECONDS IS 5004

CPU TIME USED THUS FAR IN HUNDRETHS OF A SECOND

LALC	PALC	SYOT	RTIN	TSS	T/DS	TKAX	LOGN	FSTS	PWIN	DMTEX	MONITM	USEM
10421	54031	51779	2876	103775	51	0	3869	0	95/05	U	406	703332

OVERHEAD AND IDLE TIMES IN TENTHS OF A SEC FOR EACH CPU

CPU 1	CPU 2	CPU 3	CPU 4	CPU 5	CPU 6
402383	58368	66228	92021	69467	66536

2 SYSTEM CPU, 2 TSS CPU, 2 PWIN CPU, 2 USEM CPU AND 2 IDLE TIME SINCE LAST OUTPUT

37	5	4	52	0
----	---	---	----	---

2 SYSTEM CPU, 4 TSS CPU, 2 PWIN CPU, 2 USEM CPU AND 2 IDLE TIME SINCE START OF MUM

36	5	5	39	12
----	---	---	----	----

Figure E-3. MUM CPU Utilization Report

4. Tape Delay Report. This report (see figure E-5) displays data concerning the delay of batch jobs caused by an insufficient number of available tape drives. Report entries are produced for each program and for the system (bottom of figure E-5).

```

THE PROGRAM WAITED FOR A MAX OF 0 TAPES
NUMBER OF DRIVES CURRENTLY IN USE = 6
.....

TAPES FOR PROGRAM 66442 TYPE 2 CHANNEL NUMBER 191 11 TIME IN USE (SECONDS) 33
TAPE 9 TRACK
THIS PROGRAM WAS DELAYED FOR TAPE ALLOCATION A TOTAL OF 290 SECONDS
THE PROGRAM WAITED FOR A MAX OF 1 TAPES
NUMBER OF DRIVES CURRENTLY IN USE = 14
.....

TAPES FOR PROGRAM 62554 TYPE 3 CHANNEL NUMBER 201 21 TIME IN USE (SECONDS) 87
TAPE 9 TRACK 87
TAPE 9 TRACK 87
THIS PROGRAM WAS DELAYED FOR TAPE ALLOCATION A TOTAL OF 409 SECONDS
THE PROGRAM WAITED FOR A MAX OF 2 TAPES
NUMBER OF DRIVES CURRENTLY IN USE = 12
.....

NUMBER OF JOBS = 189 NUMBER OF TAPE JOBS = 43
TIME OF ALLOCATION IN SECONDS FOR 7 TRACK DRIVES, 500 DRIVES 659 0 TOTAL WAIT TIME (MIN) 42.65
2025

```

Figure E-4. MUM Tape Delay Report

APPENDIX F

HONEYWELL ERROR ANALYSIS AND
LOGGING SYSTEM II

HONEYWELL ERROR ANALYSIS AND LOGGING SYSTEM II

This appendix describes the Honeywell Error Analysis and Logging System (HEALS) II reports that are used in the Batch Turnaround Time Analysis Procedures. The source for this information is the HEALS II Manual (DB50).

1. Concepts and Facilities

The HEALS II system is used to reduce data collected on the GCOS Statistical Collection File (SCF) to track system device errors (see figure F-1).

2. Report Formats and Data Elements

Three HEALS II reports are used in the Device Errors Test of the Batch Turnaround Time Analysis Procedures: (1) Tape Unit Error Variance Report, (2) Tape Error By Unit/Reel Number Report, and (3) MPC Statistics Report.

a. Tape Unit Error Variance Report. This report (figure F-2) is used to determine which tape device is experiencing the most data alerts. Report column headings are described below:

(1) Handler. This is the device address for which the data alerts were reported.

(2) Connect Values (Left Column). This is the total number of connects on the device up to and including the last detection of a data alert. This does not include connects since the last data alert.

(3) Alert Values (Left Column). This is the total number of data alerts for the tape handler.

b. Tape Error By Unit/Reel Number Report. This report displays tape errors grouped by tape handler and reel (see figure F-3). Column headings for the report are described below:

(1) Tape Handler. The physical address of the device.

(2) Tape Number. This is the tape reel number.

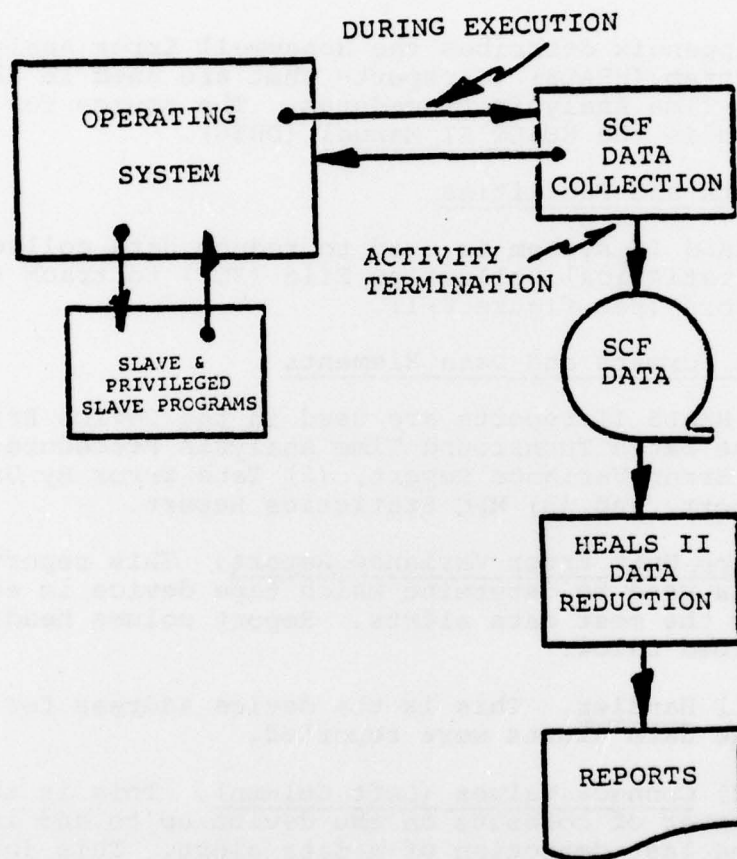


Figure F-1. HEALS II System

DATE 01-26-74
 HEALS II TAPE UNIT ERROR VARIANCE REPORT
 UNCLASSIFIED
 PAGE 2

UNIT	CONNECT/ALERT RATIO	CONNECT VALUES	ALERT VALUES
0-10-01	0.01 <=> 0.01	0.01 <=> 0.01	0.01 <=> 0.01
0-10-04	0.02 <=> 0.02	0.02 <=> 0.02	0.02 <=> 0.02
0-20-01	0.00 <=> 0.00	0.00 <=> 0.00	0.00 <=> 0.00

Figure F-2. HEALS II Tape Unit Error Variance Report

[illegible]

Figure F-3. Tape Error By Unit/Reel Number Report

c. MPC Statistics Report. This report (see figure F-4) displays statistical counters of disk subsystem activity that are updated by the MPC application firmware for logged events. Each channel and device address is displayed on this report.

(1) Movement Seeks. This is the number of actuator movements for the device.

(2) Data Transfer Commands Executed. This is the total number of read and write commands issued to the device.

(3) Seek Incompletes. This is the total number of seek incompletes received from the device.

(4) Data Check Character Alerts. This is the number of data errors detected from the disk pack.

UNCLASSIFIED									
DATE	01-26-78	HEALS	05	01-26-78	05.001	MOG	STATISTICS	REQD	PROJECTLY
STATISTICS FOR	055101	ION-0	CM-10	DEVICE-01	DEVICE-02	DEVICE-03	DEVICE-04	DEVICE-05	DEVICE-06
RELEASED/ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED
MOVEMENT CENTS	11310	51420	11444	53604	37941	4658	9730	46112	
DATA SENSORS NOTIFIED	29247	4947	912	551	1394	6261	6261	54381	
DATA SENSORS DEAN	34061	14512	55272	31641	14227	48305	5887	31531	
DATA TRANSMISSIONS EXECUTED	59215	62373	44216	13024	2405	49133	63880	10357	
SELF INCOMPLETION	0	0	0	0	0	0	0	0	
MEANED VERIFICATION CODES	0	0	0	0	0	0	0	0	
TRANSMISSION TIMING CODES	0	0	0	0	0	0	0	0	
DATA CHECK CHARACTER ALPHAS	0	13	0	0	0	0	0	0	
COUNT CHECK CHARACTER ALPHAS	0	0	0	0	0	0	0	0	
OLI DATA CODES	1	0	0	0	0	0	0	0	
ALTERNATE TOBACS PROCESSING	0	0	0	0	0	0	0	0	
EMAC UNCORRECTABLE CODES	0	2	0	0	0	0	0	0	
POSITION OFFSETS	0	0	0	0	0	0	0	0	
DATA COORDINATE INITIATED	0	2	0	0	0	0	0	0	
SEARCH ALPHAS	0	0	0	0	0	0	0	0	
UNCLASSIFIED									
STATISTICS FOR	055101	ION-0	CM-10	DEVICE-01	DEVICE-02	DEVICE-03	DEVICE-04	DEVICE-05	DEVICE-06
RELEASED/ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED	ASSIGNED
MOVEMENT CENTS	24127	43777	276	19811	53245	25265	23440	5741	
DATA SENSORS NOTIFIED	22224	4151	920	61647	5455	55866	8999	1932	
DATA SENSORS DEAN	39649	52470	12330	61597	46714	42157	39515	3364	
DATA TRANSMISSIONS EXECUTED	4037	10946	19144	64549	42247	16052	41488	64481	
SELF INCOMPLETION	0	0	0	0	0	0	0	0	
MEANED VERIFICATION CODES	0	0	0	0	0	0	0	0	
TRANSMISSION TIMING CODES	1	0	0	0	1	0	0	0	
DATA CHECK CHARACTER ALPHAS	0	0	0	0	0	0	0	0	
COUNT CHECK CHARACTER ALPHAS	0	2	0	0	0	0	0	0	
OLI DATA CODES	0	0	0	0	0	0	0	0	
ALTERNATE TOBACS PROCESSING	0	0	0	0	0	0	0	0	
EMAC UNCORRECTABLE CODES	0	0	0	0	0	0	0	0	
POSITION OFFSETS	0	0	0	0	0	0	0	0	
DATA COORDINATE INITIATED	0	0	0	0	0	0	0	0	
SEARCH ALPHAS	0	0	0	0	0	0	0	0	

Figure F-4. HEALS II MPC Statistics Report

APPENDIX G
GENERAL SUMMARY EDIT PROGRAM (GESEP)

GENERAL SUMMARY EDIT PROGRAM (GESEP)

This appendix describes the General Summary Edit Program (GESEP) report used in the Guide Batch Turnaround Time Analysis Procedures. The source for this information is the General Summary Edit Program Manual (B507).

1. Concepts and Facilities

GESEP is the accounting data reduction system provided with H-6000 systems to display data collected on the H-6000 Statistical Collection File (SCF).

a. System Operation. GESEP always prints a summary report. The operator has the option of printing: (1) only the summary, (2) the summary and all processed SCF record types, or (3) the summary and selected record types. SCF data is collected as an integral part of GCOS system operation (see figure G-1).

b. Operating Options. Report types produced by GESEP are selected from two sources: (1) using the sense switch options on the \$PROGRAM card or \$EXECUTE card or (2) using the operator type-in at the console.

2. Report Formats and Data Elements

The Allocator/Termination Report (see figure G-2) is the only GESEP report used by the Guide Batch Turnaround Time Analysis Procedures. The Urgency Code Test scans the report for an activity's initial Urgency Code and current (i.e., final) Urgency Code values:

a. IURG. This field displays the initial urgency code of the activity in decimal.

b. CURG. This field displays the current (i.e., final) urgency code of the activity in decimal.

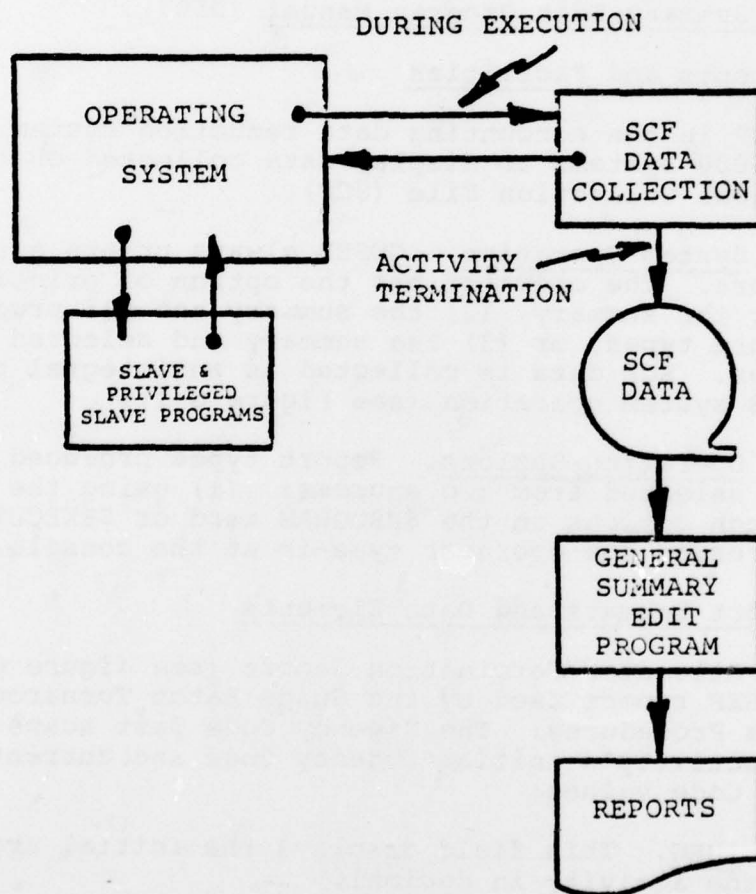


Figure G-1. GESEP

SNUMB-ACT/TYPE START TIME/TURG STOP TIME/CURG SYSOUT/LIMITS TIME/LIMITS MEMORY MEMTIME ENDING
 09137-05 GELOAD 11:04:101.785 5 11:04:20.386 5 41 5000 00:00:03.257 00:06:00.000 4096 131833 GEFINI

\$ IDENT 95CCK72,JL SCHUTTENBERG

SSA INFORMATION

GECALL TIME/DEVICE 00:00:02.060 DSS180
 PUSHDOWN TIME/DEVICE 00:00:00.238 DSS180
 SSA I/O TIME/DEVICE 00:00:02.504 DSS180
 GESYOT TIME/DEVICE 00:00:00.151 DSS180

PERIPHERAL ENTRY FOR MASS STORAGE

DEVICE	ICCD	FC	DISP	CAT?	TYPE	CHANNEL	USE TIME	#-OF-LLINKS	REL.-BLOCK	REMOVABLE
								INIT	INIT	PACK NO.
DSS181	00804	B	R	N	TEMPORARY LINKED	00100101.195	384	384	33	N/A
DSS181	00802	1	R	N	PERMANENT LINKED	00100100.030	1	0	0	N/A
DSS181	00801	4	R	N	PERMANENT RANDOM	00100105.035	516	516	0	N/A
DSS181	00802	R	R	N	PERMANENT LINKED	00100100.020	1	0	0	N/A

PERIPHERAL ENTRY FOR MAGNETIC TAPE

DEVICE	ICCD	FC	DISP	DEN	CONNECTS	ERRORS	CHANNEL	USE TIME	FILE	ENDING
									SERIAL NO.	RECORD FILE
ASA9	00905	OP	S	M	476	1	00:00:05.920	0	0	9

PERIPHERAL ENTRY FOR UNIT RECORD DEVICES

DEVICE	ICCD	FC	DISP	CONNECTS	ERRORS	CHANNEL	USE TIME	TIME OF	TIME OF
								ALLOCATION	DE-ALLOCATION
PRINTR	01500	OT	R	181	0	00:00:10.211	10:47:47.873	10:48:10.959	

MEDIA

	SYSOUT	REPORT CODE	RECORD COUNT	REMOTE STATION ID
PUNCH CARDS	75		26	N/A
PUNCH CARDS	76		12	N/A
PRINT LINES	74		240	N/A

Figure G-2. GESEP Allocator/Termination Report

APPENDIX H

TSS RESPONSE TIME ANALYSIS SYSTEM

(The contents of this appendix will be
supplied with the delivery of Volume III)